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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,265	10/17/2003	Paul G. Christensen III	10030351-1	4605

7590 04/21/2005  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

LE, JOHN H

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/688,265

Applicant(s)

CHRISTENSEN ET AL.

Examiner

John H. Le

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Orndorff (USP 5,640,697).

Regarding claims 1, 7, and 14, Orndorff discloses a signal analyzer comprising: an input (atten 32) that receives an input signal (e.g. Fig.3); and, a first converter system, the first converter system including: a first local oscillator (34) that produces a first local oscillator signal, and a first converter that mixes (mixer 50) the input signal with the first local oscillator signal to produce a first intermediate signal (to IF filter 52)(e.g. Figs.3, 4E, Col.3, lines 9-23, lines 38-48), wherein when a spur is predicted to occur when the first converter system performs high side mixing, the first converter system performs low side mixing, and when a spur is predicted to occur when the first converter system performs low side mixing, the first converter system performs high side mixing (e.g. Col.6, lines 39-59, Col.7, lines 1-30, Col.7, lines 1-30).

Regarding claims 2, 8, and 15, Orndorff discloses when a spur is predicted to occur when the first converter system performs high side mixing and a spur is predicted to occur when the first converter system performs low side

Art Unit: 2863

mixing, and the spur that is predicted to occur when the first converter system performs high side mixing is greater than the spur that is predicted to occur when the first converter system performs low side mixing, the first converter system performs low side mixing (e.g. Col.6, lines 55-57); and when a spur is predicted to occur when the first converter system performs high side mixing and a spur is predicted to occur when the first converter system performs low side mixing, and the spur that is predicted to occur when the first converter system performs high side mixing is lesser than the spur that is predicted to occur when the first converter system performs low side mixing, the first converter system performs high side mixing (e.g. Col.7, lines 17-29).

Regarding claims 3-5, 9, and 16, Orndorff discloses a spur is predicted to occur when a harmonic of the first local oscillator signal (34) interferes with a harmonic of an external oscillator signal (38, 40) used to generate the input signal (e.g. Fig.3, Col.3, lines 9-23).

Regarding claims 10, and 17, Orndorff discloses a second converter system, the second converter system including: a second local oscillator (36) that produces a second local oscillator signal, and a second converter that mixes the first intermediate signal with the second local oscillator signal (mixer 46) to produce a second intermediate signal (to filter 66)(e.g. Figs.3, 4E, Col.3, lines 9-54), wherein when a spur is predicted to occur when the second converter system performs high side mixing, the second converter system performs low side mixing, and when a spur is predicted to occur when the second converter

Art Unit: 2863

system performs low side mixing, the second converter system performs high side mixing (e.g. Col.6, lines 39-59, Col.7, lines 1-30).

Regarding claims 11, and 18, Orndorff discloses a second converter system, the second converter system including: a second local oscillator (36) that produces a second local oscillator signal, and a second converter that mixes the first intermediate signal with the second local oscillator signal (mixer 46) to produce a second intermediate signal (to filter 66)(e.g. Figs.3, 4E, Col.3, lines 9-54), wherein a spur is predicted to occur when a harmonic of the second local oscillator signal interferes with a harmonic of an external oscillator signal used to generate the input signal (e.g. see Fig.3, Col.6, lines 2-13).

Regarding claims 12, and 19, Orndorff discloses a spur is predicted to occur when a signal-generated external to the signal analyzer interferes with a signal generated within the signal analyzer (e.g. Col.6, lines 2-38).

Regarding claims 6, 13, and 20, Orndorff discloses spur prediction takes into account fundamentals, harmonics, and mixed products of a multitude of known external interfering sources (e.g. Fig.3, Col.6, lines 2-38).

#### ***Other Prior Art***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Mar (USP 6,373,344) discloses a method for reducing the effect of crossing spurs in the output signal of a microwave synthesizer by using the single frequency offset signal.

Art Unit: 2863

Marzalek et al. (USP 5,162,723) disclose sampling signal analyzer for sample timing is based on numerical analysis of the intermediate frequency (IF) signal produced by the sampler.

***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275. The examiner can normally be reached on 8:00 - 4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le

Patent Examiner-Group 2863

April 15, 2005

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800